National Energy Marketers Association

NEMA Risk Valuation, Management & Accountability Task Force

Energy Market Stability Framework

Introduction:

The collapse of Enron and a number of disclosures by most major energy companies related to trading practices have led to significant turmoil in the energy sector. Many stakeholders (investors, regulators, analysts, rating agencies, etc.) have begun to question the degree of transparency provided by performance information currently available from market participants, and the accuracy of their understanding of the "riskiness" of the energy market participants. In the absence of better information, stakeholders have taken a more conservative stance toward market participants (driving down equity prices, lowering credit ratings, etc).

The impact on market participants has been significant. The equity price of the top 10 energy trading companies has dropped 35 - 40 percent over the last six months. Most have incurred credit rating downgrades during the same period. Moody's Investors Service, in a Special Comment dated May 2002 said "Moody's believes that energy trading, as presently configured, may lack investment grade characteristics unless it is ancillary to a more stable core business that generates strong sustainable cash flow." Access to capital is becoming increasingly difficult and the cost of capital is increasing, causing many companies to scrap growth plans and scramble to shore up their balance sheets.

We have a recent example of a similar situation being successfully managed. In the mid 90's, the Derivative Policy Group was formed to deal with the derivatives crisis. The DPG, a high-level, cross-industry group articulated a new set of standards to which market participants agreed to adhere. Over-time, the standards re-built stakeholder confidence and stabilized the derivative market.

The following document is intended as an outline of concepts intended to start the process of re-building stakeholder confidence and to stabilize energy markets. The concepts have been developed by a group of energy industry participants, under the leadership of NEMA. The document is intentionally high level. Many of the topics included below are technical and complex. Each concept will require careful, detailed development, with the participation of key stakeholder groups (banking, regulators, rating agencies, analysts, etc.). This document is intended to create an overall framework for a new set of standards for the energy industry.

The sections of the framework are as follows:

1. Disclosure
2. Market Risk
3. Credit Risk
4. Capital Adequacy
5. Compliance
6. Governance

1. Disclosure Framework:

Qualitative Disclosures

Objectives:

- To improve transparency of information in critical areas so as to allow stakeholders to develop a more accurate understanding of business activities which create risk, and associated levels of return
- To identify information to be included in regular disclosures to market stakeholders

Qualitative Disclosures – General

- Discuss the overall business objectives and strategies for achieving those objectives
- Provide an overview of the institution's risk-taking philosophies and how business activities affect the overall level of risk
- Discuss internal control procedures for identifying, measuring and managing risk (approach may differ based on the type of risk)
- Provide summary information about activities involving material new/innovative, complex or leveraged derivative instruments (e.g. credit derivatives) and risks associated with these activities
- Disclose material changes to trading and risk management strategies, risk tolerances and risk management systems
- Discuss the objectives for use of non-trading derivatives
- Describe how unwanted risks are mitigated, e.g., risk hedging strategies
- Where appropriate, place information on derivatives in the context of related on-balance sheet positions

Risk Management Approach - Qualitative Disclosures

- Provide an overview of key aspects of the organizational structure central to the risk management and control processes for trading and derivative activities (e.g. structure of risk control functions/committees)
- Provide a description of significant risks (e.g., market, credit , liquidity, legal, reputational, and operational) arising from the business
- Provide an explanation of how these risks arise and the methods used to manage significant risks
- Discuss the methods used to assess performance in managing these risks

Market Risk - Qualitative Disclosures

- Discuss the methods used to measure and manage market risk
- Discuss how performance in managing market risk is assessed
- Describe the major assumptions and parameters used by internal models necessary to understand an institution's market risk disclosures
    - Type of model used
    - Portfolios covered by the model
    - Holding period
    - Confidence level
    - Observation period
- Discuss the method of aggregating risk exposures
- Discuss the method used to recognize correlations between market factors (e.g. correlation assumptions)
- Provide an overview of policies and procedures for validating internal models
- Identify significant changes in market risk management strategies from previous practices
- Describe how liquidity risk arises and is relevant to trading and derivatives activities
- Discuss the methods used to measure and manage liquidity risk
- Discuss how performance in managing liquidity risk is assessed
- Describe how liquidity risk is considered in determining market values

Credit Risk- Qualitative Disclosures

- Summarize policies for identifying, measuring and managing credit risk

- Discuss the structure of the credit risk control/loan review function, internal controls, risk limits and limit monitoring
- Discuss stress testing of credit risk, if applicable
- Discuss mechanisms to reduce credit exposure, including use of collateral, margin, bilateral or multilateral netting and early termination agreements
- Discuss how performance in managing credit risk is assessed
- If an internal model is used, provide information on the type of model and major assumptions used
    - Portfolios covered by the model
    - Confidence interval
    - Holding period
    - Observation period

Quantitative Disclosures

Market Risk - Quantitative disclosures

- Provide summary quantitative information on market risk exposure based on internal methods used for measurement, with information on performance in managing those risks
- Provide summary EAR/VAR results on a weekly or monthly basis
- Disclose VAR data, provide High/Low VAR
- Disclose VAR data, provide Average VAR
- Discuss the results of scenario analysis or stress tests for traded portfolios
- Discuss the number of times (days) actual portfolio loss exceeded VAR, e.g., backtesting results
- Provide summary information about liquidity risk (e.g., concentrations and funding)

Credit Risk- Quantitative disclosures

- Discuss the gross current credit exposure (replacement cost)
- Discuss the potential future credit exposure
- Discuss the average credit exposure or range of credit exposure
- Discuss the effect of legally enforceable netting agreements on credit risk exposure
- Provide information on counterparty credit quality by internal/external credit rating for significant concentrations
- Provide information on significant concentrations (e.g., by counterparty, industry, geographic location)
- If internal models are used, discuss the expected losses predicted by the model compared with actual results

Earnings - Trading Activities

- Provide summary information about how trading activities affect earnings, based on internal measurement and accounting systems
- Provide a break-out of operating income of trading and merchant operations by type (pure trading, asset-based, fee-based, etc.)
- Disclose gross margin by type of trade (hedging, market-making, origination, arbitrage or speculation
- Disclose trading income versus cash flow
- Disclose unrealized earnings in relation to the timing of conversion to cash
- Provide information on revenues from trading activities
- Provide information on revenues by major risk category (fx, interest rate, commodity, equity) or by major product/ line of business
- Provide summary information about material trading gains from broad trading strategies (e.g., nonrecurring events or strategies that provide a significant portion of trading income)
- Provide summary information about material trading losses from broad trading strategies (e.g., nonrecurring events or strategies)
- Provide a financial forecast of trading operations

Earnings - Non-trading derivatives holdings

- Provide summary information about the effect on earnings of off-balance sheet positions held by the organization (e.g., to manage interest rate risk, currency risk and other risks)
- Disclose the cumulative deferred losses on derivatives accounted for at historical cost
- Discuss the events that will result in recognition of these amounts
- Discuss the timing of recognition of deferred losses in the profit and loss account.
- Discuss the net gain or loss recognized in earnings from non-trading derivative activities and the category of income affected.
- Provide this information broken out by hedging strategy with the impact of hedge ineffectiveness separated
- Disclose the amount of deferred gain or loss recognized in earnings due to a change in assumptions about whether a firm commitment or anticipated transaction will occur
- Disclose the maximum period of time over which gains or losses are deferred

2. Market Risk Framework:

Objectives:

- To identify, standardize and require the tracking of key metrics which measure market risk
- To standardize the methodology for portfolio valuation and mark-to-market
    - short-dated and long-dated contracts
- To outline best practices that market participants should develop in order to measure, track and adequately capitalize for the "market risks" associated with their portfolio

Metrics:

Improving and standardizing the measurement of market risk, one of a handful of critical risk components, is essential for increasing stakeholder understanding of riskiness providing a basis for more confident investment decisions.

We advocate several risk and performance measures related to market activities:

Value-at-Risk: Standardize the method for calculating VaR for use by all market participants. Develop standard treatments across all relevant asset classes. Link VaR position relative to risk limits and to capital allocation decisions.

Risk-based Performance Measures:

- Sharpe ratio:
- RAROC:
- SVA:
- Peer Assessment

Portfolio Valuation:

De-mystifying and standardizing methods for portfolio valuation and booking MtM (versus mark to model) earnings is among the most essential components for restoring stakeholder confidence in energy markets. We advocate the following approach to this critical area:

- Liquid price-points: Standardize method for developing market based pricing. Report the percentage of portfolio valued by market based prices.

- Il-liquid price-points: Expected cash flows associated with pricing lacking adequate liquidity should be priced at zero, or monitored to identify the amount of Mtm value being created by illiquid price points

Reporting:

VaR and risk based performance measures should be tracked and reported internally daily, with monthly re-calculation of capital allocation to support desired solvency targets. Adherence to portfolio VaR limits should be tracked and reported daily. Methodologies for calculating VaR, performance based measure and MtM across all tenors, as well as the systems required to track and manage based on these measures should be fully disclosed to stakeholders. (see disclosure framework)

3. Credit Risk Framework:

Objectives:

- To identify, standardize and require the tracking of key metrics which measure credit risk
- To increase risk transparency to improve stakeholder understanding of credit risk carried by market participants
- To outline credit risk "best practices" that market participants should develop in order to reduce credit losses, make better reserve and capital allocation decisions, and improve earnings predictability

Metrics:

Improving measurement of credit risk, a second critical risk components, is essential for increasing stakeholder understanding of riskiness providing a basis for more accurate investment decisions.

We advocate two measures related to credit risk:

Exposure: Exposure measurement should include both current and potential exposure, net of offsets, enforceable mitigation actions (e.g. LOCs, parent guarantees, collateral, credit derivative hedges)

Risk: Here "risk" is a function of expected loss, estimated default frequency and recovery (leading to reserve requirements) as well as unexpected loss from the credit portfolio (leading to capital allocation requirements to support a solvency target)

Reporting:

Exposure and risk measures should be tracked and reported internally daily, with monthly re-calculation of reserve and capital allocation measures to support desired solvency targets. Adherence to name and portfolio exposure and risk limits should be tracked and reported daily. Methodologies for calculating exposure and risk, as well as the systems required to track and manage based on these measures should be fully disclosed to stakeholders. (see disclosure section)

Critical Supporting Capabilities:

Multi-lateral clearing and netting: Establishing a system for multi-lateral netting and clearing would improve efficiency across a range of credit management actions (e.g. collateral requirements, exposure usage, disbursements). Shortening the time to settlement will reduce credit exposure for each transaction for all participants. Clearing technology has developed the sophistication to support the function. In addition, the developing RTO framework provides a potential control point around which to build and operate a multi-lateral clearing and settlement system. Clearing approach needs to consider both payments associated with the settlement of physical or financial contracts, and the mark to market value of contracts.

Credit Best Practice Areas:

The measures and capabilities outlined above are intended to provide a highly focused set of objectives to improve transparency with respect to the market risk carried by market participants. Building a robust credit risk management system across a range of capabilities provides the best long-term assurance to both

participants and stakeholders that credit risk associated with energy markets are well managed. Best practice credit risk areas include:

Risk Identification and Allocation:

- Counterparty identity management
- Assessing credit quality/scoring
- Establish appropriate counterparty and portfolio limits (exposure and risk based)
- Allocate capital

Analysis:

- Determining EDF
- Calculation of potential losses (EL, UL/Economic Capital)
- Establishing credit risk based pricing
- Portfolio analytics Perform stress testing

Measurement:

- Exposure measurement and aggregation
- Risk
- Solvency

Monitoring:

- Review changes in credit quality/migration
- Review risk and exposure against established limits
- Review activities against established policies
- Management of limit/policy exceptions

Mitigation:

- Limits adjustments
- Use of mitigation tools (LOCs, Collateral, Derivatives, etc.)

4. Capital Adequacy Framework:

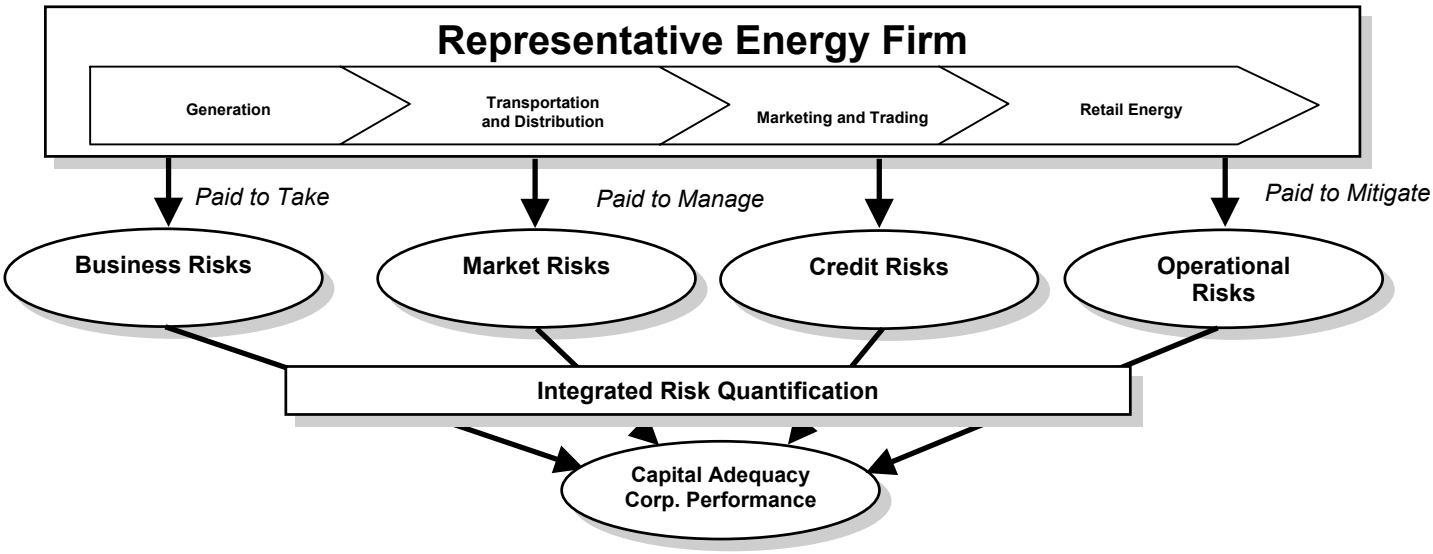
Why capital adequacy?

Industry participants need leading edge methods, widely recognized from the capital markets, to quantitatively demonstrate new levels of financial stability to investors, analysts, rating agencies, regulators and legislators. In its June 11, 2002 update, S&P said "…S&P will continue to rely on capital adequacy analysis as the fundamental methodology for determining the credit quality of energy trading and marketing operations."

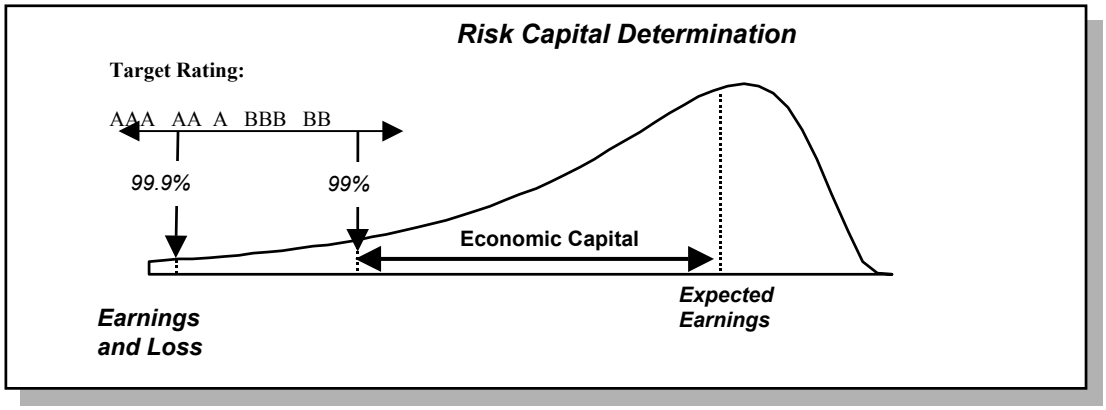
Objectives:

- Establish connection between risk inherent in business activities and capital necessary to withstand a downside event
- Leverage and establish linkage with currently used measures of risk such as VaR, CvaR, credit exposure, reserves, etc.
- Capital required should be a function of risk and actual or target credit rating credit quality
- While a very useful measure for internal management purposes, initial focus should be on providing meaningful risk quantification to external parties, e.g., investment community, regulators, rating agencies
- While all risks should be considered, initial focus should be on market and credit risk and its impact on capital needs

Key Concepts:



- Should provide a basis for establishing limits and controls around business activities, e.g., transactions/activities will be constrained by "risk" capital availability
- Should provide insight into performance against capital standards
- Based on a probabilisitc distribution of economic earnings and loss, and difference between expected outcome, and unexpected downside event



- Should be consistent with a debt holders perspective of risk, e.g., ensure ability of firm to make payments in the event of a downside occurrence based on perceived quality of credit
- Establish linkage between current risk measures, e.g., VaR, and capital adequacy approach (this point isn't clear as written)
- Time horizon for earnings expectations needs to be established which
    - Takes into account the length of the business cycle
    - Enables risk types to be integrated, e.g., market risk typically measured on 1 to 3 days basis, credit measured on a 1 year plus basis
    - Debt holders perspective concern over payment over the life a an instrument
    - Historical availability of key information such as default and recovery rate

Capital Adequacy Proposal:

- Market participants implement a capital adequacy analytical framework from which to based capital allocation decisions
- Establish and disclose the solvency standard for each business, consistent with the organization's risk appetite
- Establish and track risk limits, reporting positions monthly
- Re-calculate capital required to sustain solvency target monthly

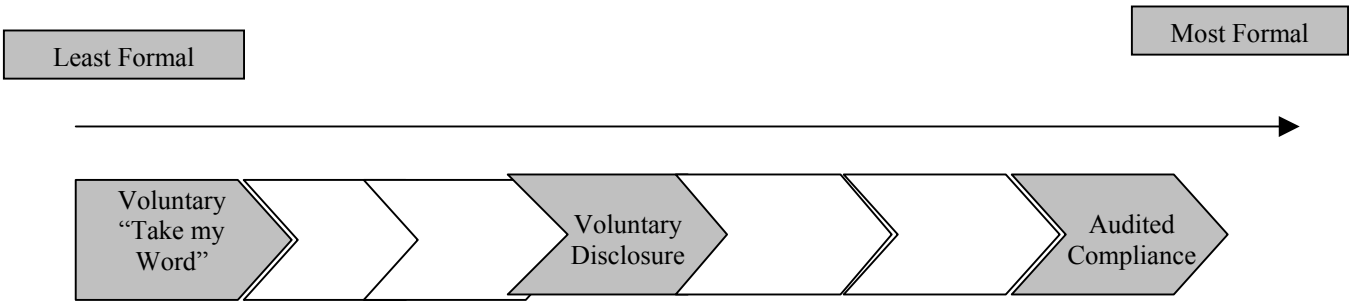
5. Compliance Framework:

Context:

Assuming that an effective set of Risk Management Standards are developed, a method for assuring compliance with the standards becomes essential to re-gain the confidence of investors, analysts, rating agencies, regulators and legislators. This section frames a compliance methodology.

Compliance Tolerance:

A key issue that must be considered is the degree of formality associated with the compliance process. The graphic below captures key dynamics surrounding what should be considered a continuum of compliance options. The options listed below are illustrative:



Voluntary "Take my Word"	Voluntary Disclosure	Audited Compliance
• Participants formally declare their intent to comply with the standards in public forums. • Participants confirm their compliance by statements in quarterly and annual disclosures	• Standards related measures are added to quarterly and annual disclosures • Standards related performance is discussed on analyst and rating agency conference calls and at meetings • Compliance verified by internal audit	• Standards are added to annual independent audit templates • Independent auditor attests to the participant's compliance with Standards
• Easiest to implement • Safest; requires limited additional disclosure • Will invite skepticism from investors, analysts, etc. • May be seen as "too soft" by regulators and legislators given the existing political environment.	• Represents a "compromise" level of compliance • Would likely require changes to participant's risk management capabilities and metrics • Capability enhancements would likely require investments	• Most rigorous of compliance options • Would likely require changes to participant's risk management capabilities and metrics • Capability enhancements would likely require investments • Independent verification may be most credible with investors, analysts, rating agencies, etc. • Best fit with political dynamics

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Compliance Proposal:

- Adopt and implement disclosure standards described above (we acknowledge that more specific descriptions of disclosure items than is included in this document will be required prior to implementation)
- Include both qualitative and quantitative measures and disclosures as "attestation" items, with compliance confirmed by independent auditor

6. Governance Framework:

- Articulate a code of conduct which addresses unacceptable trading and accounting actions such as those recently revealed (wash trades, market manipulation, etc.)
- Clearly define and document corporate risk policy
- Define and implement a risk governance framework which establishes appropriate levels of oversight and checks-and-balances, including:
    - Board of Directors
    - CEO
    - Executive Committee
    - Risk Management Committee
    - CRO
    - Trading functions and controls:
        - Front office
        - Middle office
        - Back Office
- Demonstrate trading strategy oversight which would prevent "wash trades" and other questionable actions
- Establish trader compensation plans that dis-incent questionable actions
- Fully disclose governance measures to market stakeholders (see disclosure section)